

The diagram illustrates a memory controller system (1a) and its connection to a signal processor (3) and memory (2). The system is connected to a 4 SYSTEM BUS (D1, D2).

Signal Processor (3): Contains multiple signal processing cores (3a, 3b, ...).

Memory Controller (1a):

- DATA CONTROLLER (9):** Receives data from the 4 SYSTEM BUS (D1) and sends it to the MEMORY (2).
- STATE GENERATOR (5a):**
 - DEMULTIPLEXER (7a):** Receives data from the 4 SYSTEM BUS (D1) and outputs to the FIRST STATE MACHINE (51a) and SECOND STATE MACHINE (52a).
 - STATE MACHINES (51a, 52a):** Process data and output to the FIRST STATE REGISTER (51b) and SECOND STATE REGISTER (52b).
 - STATE REGISTERS (51b, 52b):** Store state information and output to the BANK CONTROLLER (8a).
- ENABLE SIGNAL GENERATOR (6a):**
 - DECISION CIRCUITS (61a, 62a):** Receive inputs from the STATE MACHINES and output to the FIRST ENABLE REGISTER (61b) and SECOND ENABLE REGISTER (62b).
 - ENABLE REGISTERS (61b, 62b):** Store enable signals and output to the BANK CONTROLLER (8a).
- BANK CONTROLLER (8a):** Receives control signals from the STATE REGISTERS and ENABLE REGISTERS and outputs to the MEMORY (2).

Memory (2): Contains multiple memory banks (B0, B1, ...).

FIG. 2

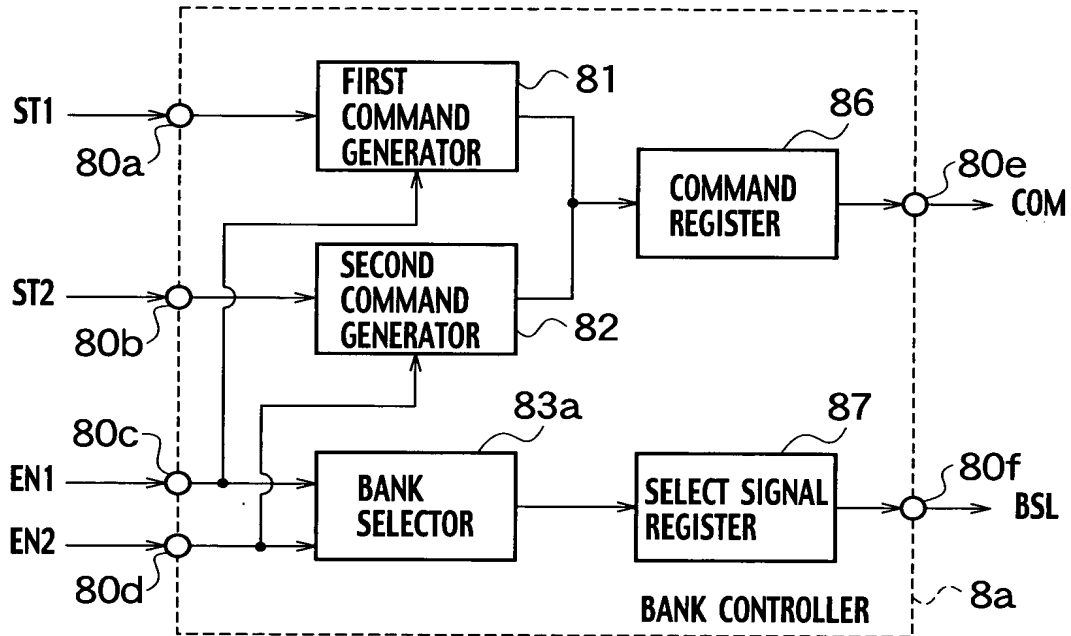


FIG. 3

CST1 \ CST2	WAIT	ACTIVE	READ/WRITE	PRECHARGE
WAIT	0	1	1	1
ACTIVE	0	0	1	0
READ/WRITE	0	0	0	0
PRECHARGE	0	1	1	0

FIG. 4

CST1 \ CST2	WAIT	ACTIVE	READ/WRITE	PRECHARGE
WAIT	0	0	0	0
ACTIVE	1	0	0	1
READ/WRITE	1	1	0	1
PRECHARGE	1	0	0	0

FIG. 5

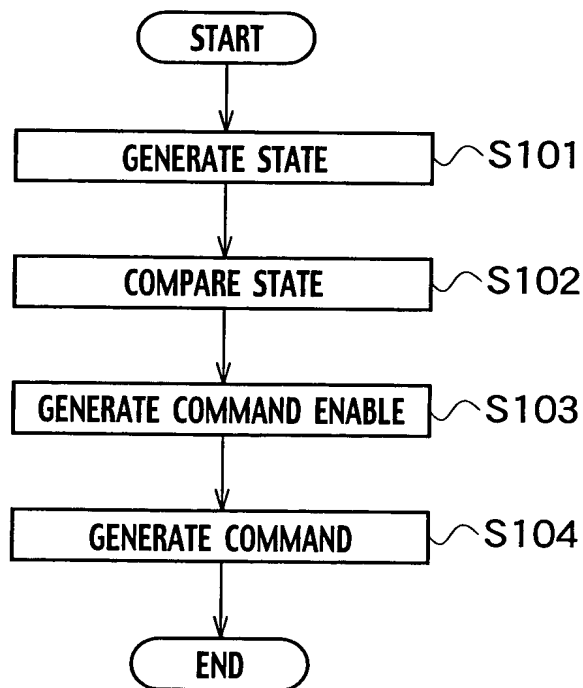




FIG. 7

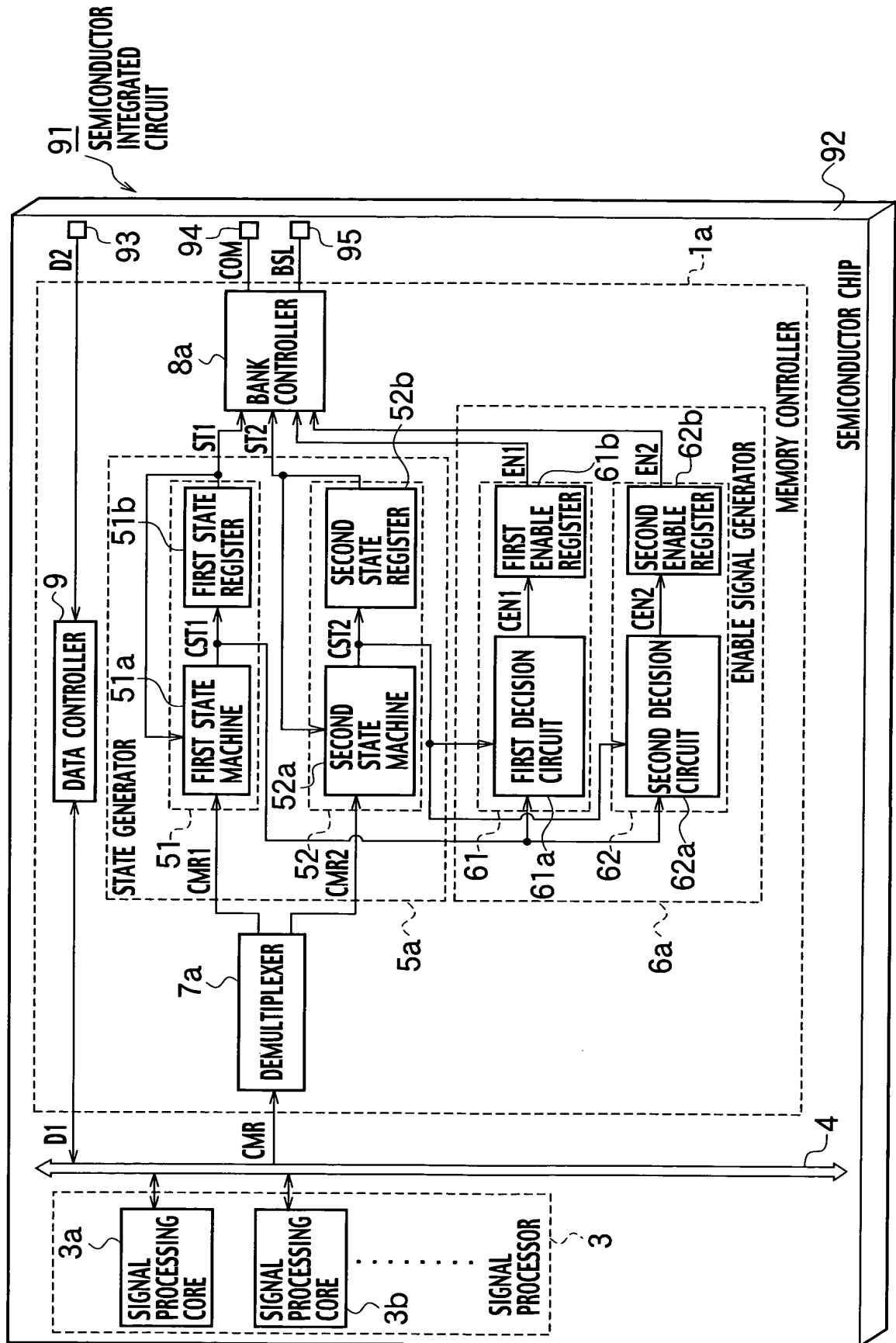


FIG. 8

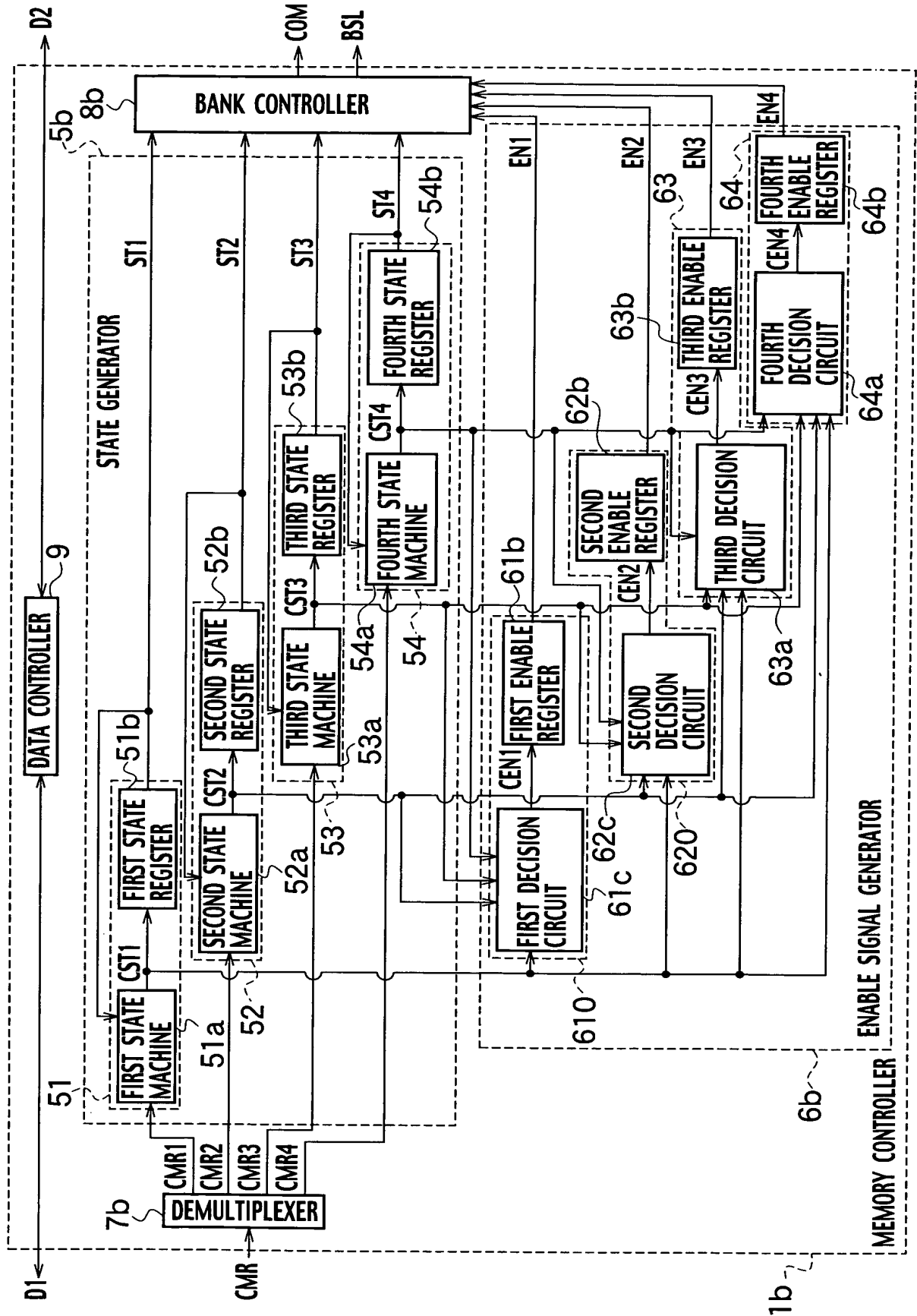


FIG. 9

